

Work Order ID 134060

Thursday, June 25, 2015 2:26:45 PM

134060

Page 1

Item ID: D3676-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Bubble Window, LH

Start Date: 6/25/2015 Start Qty: 1.00

1

Cust Item ID:

Required Date: 6/25/2015 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MLJ Date: JUN 25 2015

Tooling:

Date:

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3676	Rev D

100

0.00

100

HAND FINISHING THERMOFORMING

0.00

Thermoform

Memo

Thermoforming Machine

Set up Machine as per folio FTA 018 and D3676 program

x1**DAS
07
9-89**15/06/30

110

0.00

110

HAND FINISHING THERMOFORMING

0.00

Thermoform

Memo

Thermoforming Machine

Cut Blanks to 38" by 52"

x1**DAS
07
9-89**15/06/30

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
Apex at 22" At 20" depth ~ 17"		Acceptable. Window is by req. N/A		Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

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Item ID: D3676-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Bubble Window, LH
Start Date: 6/25/2015 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 6/25/2015 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	THERMOFORMING MACHINE	0.00							07 9-89
120						x/			15/06/30
Thermoform	Memo	0.02							
Thermoforming Machine	Thermoform as per Dwg. D3676 and Folio FTA 018								
	Dwg. Rev. <u>D</u>								
	Folio Rev. <u>E</u>								
	1- Visually inspect for proper formation of each part 2-Check depth of bubble								
150	HAND FINISHING THERMOFORMING	0.00							DAS 07 9-89
150						x/			15/07/02
Thermoform	Memo	0.03							
Thermoforming Machine	1) Trim off excess flange material								
	2) Buff out any light scratches or blemishes								
	3) Etch part number and batch number								

PTO →
LAST PAGE

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Item ID: D3676-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bubble Window, LH
 Start Date: 6/25/2015 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 6/25/2015 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00				x 1			DAS 07 9-89 15/07/09
170 *170* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo 1) Visually inspect for clarity, and proper formation.	0.00 0.00				1			DAS 38 9-89 15-07-09
180 *180* Packaging Packaging	Identify as per dwg & Stock Location: <u>rk</u> Memo	0.00 0.00							DAS 6 9-89 JUL 10 2015

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Item ID: D3676-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Bubble Window, LH

Start Date: 6/25/2015 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 6/25/2015 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

MLS

JUL 10 2015

MLS

JUL 10 2015

Picklist Print

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Page 1

Work Order ID: 134060

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Parent Item: D3676-1

D3676-1

Parent Item Name: Bubble Window, LH

Start Date: 6/25/2015

Required Date: 6/25/2015

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev A New Product 01/24/2008 DL Verified:JLM
IPP Rev B Change Mat. to .236"" 08/29/2008 DL IPP Rev C
Added D3676-2 12/03/01 DL IPP Rev. D Udate dwg
add 20" dim to apex. 13/012/05

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MACRLICS.236		Purchased		No		110	sf	242.0000	14	25			

MACRI ICS 236

Plexiglass G 60" x 96"x .236"

Location

Loc Qty

Loc Code

therm

242

M129447

14

M131524

228

St.
15/07/09

25 58 11

DART AEROSPACE LTD		Work Order: 134060
Description:		Part Number: D3676-1
Inspection Dwg: D3676 Rev: D		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST
THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than <u>N/A</u>				
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

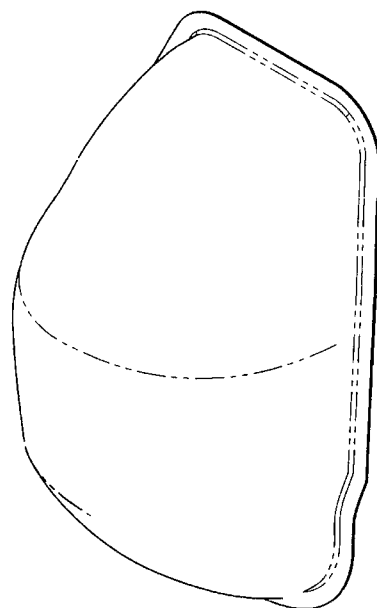
Measured by:	DAS 07 9-89	Date: 15/06/30
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TRIMMING SECTION

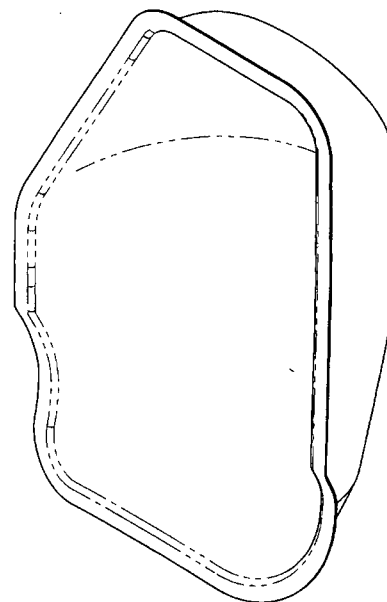
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
29.1"	± .100	29.1"	✓			
46.0"	± .100	46.1"	✓			
0.040"	MIN	0.114"	✓			
0.070"	MIN	0.099"	✓			
0.050"	MIN	0.059"	✓			
20.0"	MAX	22.0"		✓		OK as is
15.5"-17.5"	MIN-MAX	17.0"	✓			

Measured by:	DAS 07 9-89	Date: 15/07/09
Audited by:	38 9-89	Date: 15-07-09
Preliminary Approval:		Date:

Rev	Date	Change	Revised by	Approved
B	10.04.14	Added preliminary approval	KJ	



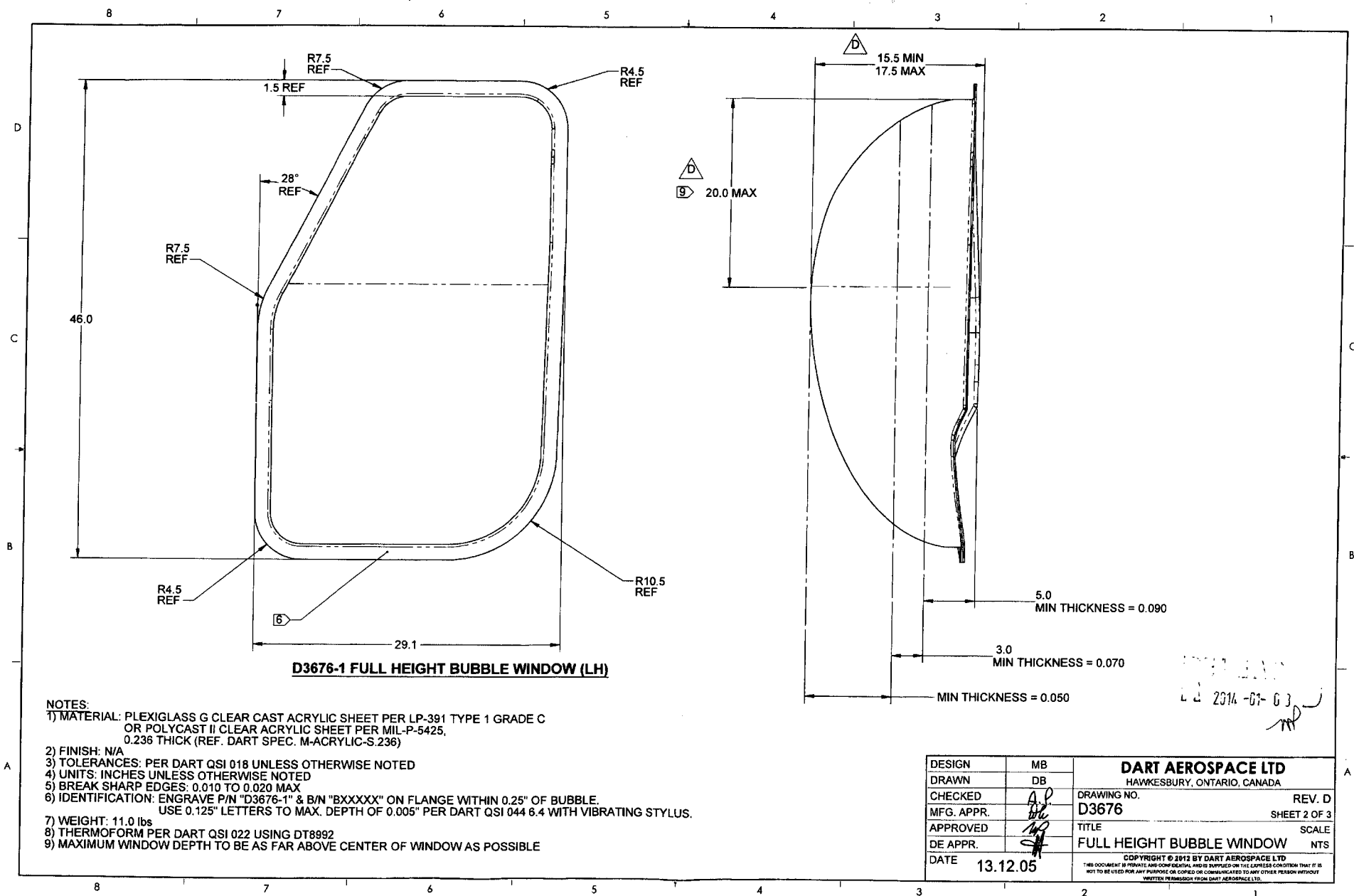
D3676-1 FULL HEIGHT BUBBLE WINDOW (LH)

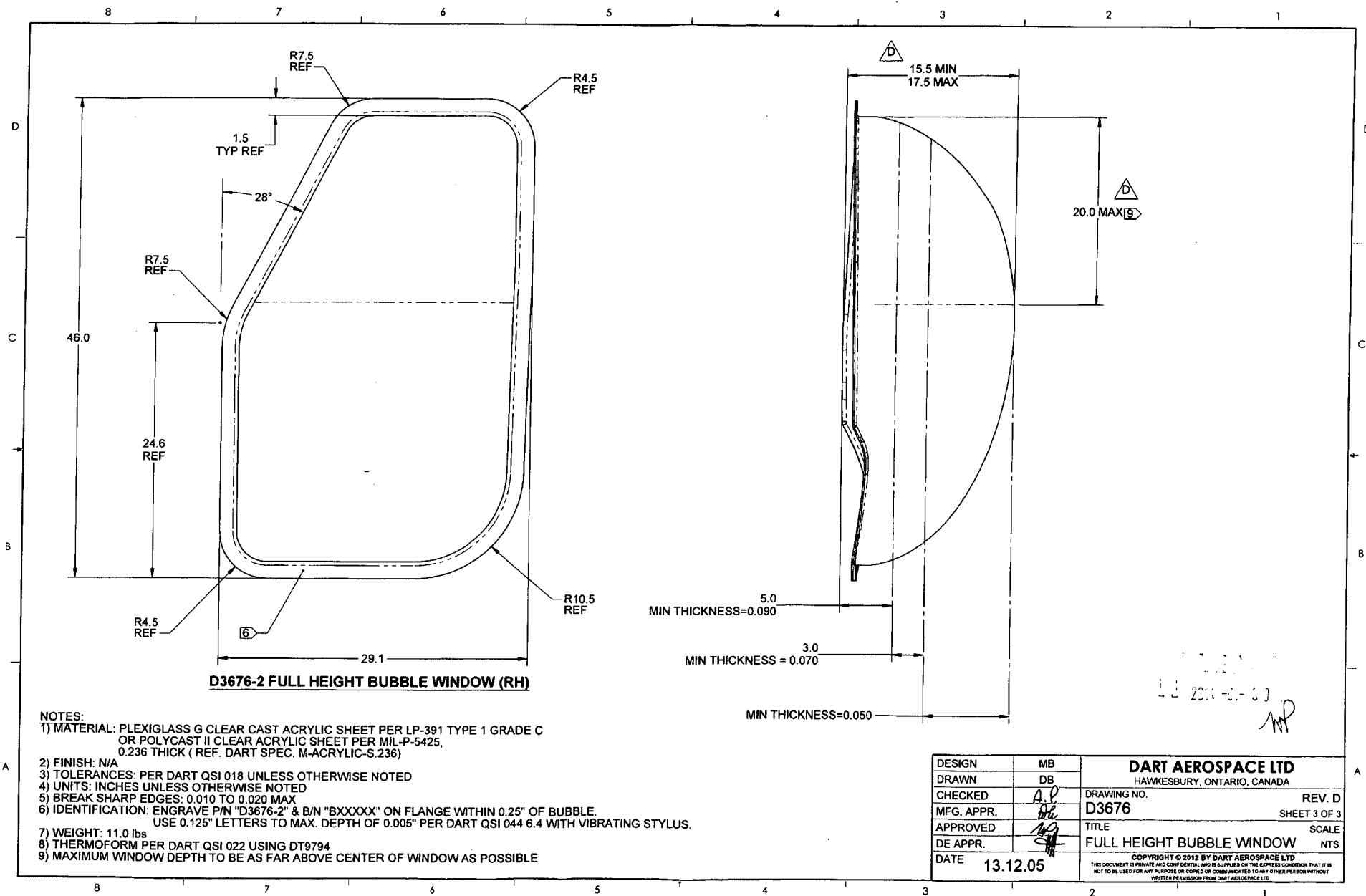


D3676-2 FULL HEIGHT BUBBLE WINDOW (RH)

SPRINT COPY
UNCONTROLLED COPY
SUBJECT TO THE DOCUMENT
NUMBER
NO. 134060-MLJ
150625

D	UPDATE TOLERANCE ON DEPTH, ADD 20.0 MAX. VERTICAL DIMENSION (SH 2 & 3), NEW VIEW LAYOUTS ON SH 1 & 2	DB	13.12.05
C	ADDED D3676-2 FULL HEIGHT BUBBLE WINDOW (RH). REMOVED NOTES ON SHEET 1, REFORMAT NOTES 6 & 8 ON SHEET 2, D3676-1 WAS "412 BUBBLE WINDOW" NOW "FULL HEIGHT BUBBLE WINDOW (LH)".	AP	12.03.01
B	REVISED TOLERANCE ON MINIMUM THICKNESSES (ZN A8/B8-2). REASON: PRODUCTION FACILITY.	MB	08.10.27
A	NEW ISSUE	MB	08.02.29
REV.	DESCRIPTION	BY	DATE
DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. REV. D D3676 SHEET 1 OF 3 TITLE SCALE FULL HEIGHT BUBBLE WINDOW NTS COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	DB		
CHECKED	A.P.		
MFG. APPR.	MB		
APPROVED	MB		
DE APPR.	MB		
DATE	13.12.05		





NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: DA Date: 15/07/13QA Closed: PSH Date: 15/07/13

Work Order: <u>134060.</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒ Work Order Update ☐	AGAINST DEPARTMENT/PROCESS			
Part No. <u>D3676</u>		Skid-tube ☐ Machining ☐ Thermoforming ☒ Large Fab ☐	Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐	Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	Engineering ☐ Quality ☐ Other ☐
NCR No. <u>15-5189</u>					

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐	15/06/30	110	1	APEX OF BUBBLE NOT WITHIN 20" OF TOP. Apex @ 22". At 20" depth is 17"	DAS 12 9-89 15/7/9	Use as is.	Jh. 15/07/02	DAS 38 9-89 15-07-09	15-07-09 DAS 9 9-89
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☒									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	General	
☐ Bending	☐ Bend	☐ Grain
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear
☐ Cuffs	☐ Contamination	☐ Maintenance
☐ Heat Treat	☐ Countersink	☐ Misabeled
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread
☐ Ripples in Bend	☐ Drill Holes	☐ Offset
☐ Torque Waves in Extrusion	☒ Drawing	☐ Out of Calibration
☐ Turning Sequence	☐ Finish	☐ Out of Sequence
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions
		☐ Ovalized ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge
		☐ Pressure/Forced ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other